



4th National Congress on Medicinal Plants
12, 13 May 2015
Tehran- Iran



1226-1229-1259

SYNTHESIS AND CYTOTOXICITY OF METAL COMPLEXES OF 3-HYDROXYFLAVONE

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Flavonoids are natural components which are present in many plants known to be constituents of animal and human food. These compounds have been shown to have different biological properties, such as anti-viral, anti-inflammatory, anti-mutagenic and anti-carcinogenic activities. 3-Hydroxyflavone (3HF) is a chemical compound that it is the backbone of all flavonols, a type of flavonoid [1]. Coordination and organometallic chemistry offers additional options for the design and synthesis of chemotherapeutics when compared to organic chemistry [2]. The success of cisplatin has triggered intensive work for discovery of new metal-based anticancer drugs [3]. Ruthenium compounds appear to penetrate tumors well and bind to cellular DNA [4]. In this study, we evaluated the cytotoxicity and apoptotic effects of ruthenium, copper, and cobalt complexes including 3-Hydroxyflavone against human cervix epithelial carcinoma (HeLa) cell line and using cisplatin as a comparative standard by MTT assay. Our results presented herein provide experimental evidence that these complexes induce apoptosis in cancer cell lines. Our flow cytometry results confirm that, these complexes showed a high population of apoptotic cell and could induce apoptosis of Hela cancer cells.

References

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